

DRAFT FINAL

**ECOLOGY TOXICS CLEANUP PROGRAM
EPA BROWNFIELDS PROGRAM**

WORK PLAN

**Little Squalicum Park
Remedial Investigation/Feasibility Study
Bellingham, WA**

Prepared for

City of Bellingham

Parks & Recreation Department
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July 29, 2005

EXECUTIVE SUMMARY

This Work Plan describes the activities that will be undertaken by Integral Consulting to conduct a remedial investigation and feasibility study (RI/FS) for Little Squalicum Park (the Park), located in Bellingham, Washington. The Work Plan includes project objectives and describes a project strategy to address these objectives. The Work Plan also describes the project background, regulatory framework, project schedule, reporting requirements, and project team and responsibilities. Elements and design of the RI/FS are detailed in the accompanying sampling and analysis plan (SAP), quality assurance project plan (QAPP), and health and safety plan (HASP). The Work Plan and accompanying SAP, QAPP and HASP have been prepared in general accordance with an *Agreed Order* negotiated between the City of Bellingham and the Washington State Department of Ecology and finalized on March 22, 2005.

The primary objectives of the RI/FS are to provide critical data necessary to understand the nature and extent of environmental problems at the Park, to assess potential risk to human health and the environment, to determine if cleanup actions are required, and to determine how these actions may be accomplished as part of specific wildlife enhancement and park development actions. These objectives will be met by sampling soil, groundwater, surface water, and sediments and evaluating the results with historical data.

The SAP presents an evaluation of data quality and usability for eight historical studies conducted within the boundaries of the Park. A five-step data quality objective (DQO) process was used to identify the adequacy of existing data and the need for additional data, to develop the overall sampling approach to each study element, and ultimately to develop the field sampling plan. The results of this review indicate the following spatial and temporal data gaps for the site:

- No recent soil data are available for the gravel pit areas on the south side of the park, and only limited data are available in the vicinity of the Burlington Northern Santa Fe (BNSF) railroad tracks. Soil sampling at depth in these areas is necessary because of the possibility of rerouting the creek into these areas.
- Groundwater does not appear to be a medium of primary concern at the Park based on previous sampling and testing results. No additional wells are proposed within the boundaries of the Park. However, additional groundwater sampling of wells located downgradient of the OESER Company (OESER) site is warranted to provide current data verifying that groundwater is not a medium of primary concern.
- Data gaps for surface water are primarily temporal. Contaminant concentrations in the surface water of the creek are expected to vary over time, because of variable inputs from upstream sources and the discharges from Marine Drive, OESER, Bellingham Technical College, and the Birchwood neighborhood.

Additional surface water sampling is warranted to provide current data, focusing on discharge areas and identification of sources.

- Sediment concentrations in the creek are expected to vary to some extent over time because of interactions with surface water; therefore, historical data may not be entirely representative of current sediment conditions. Historical sediment sampling has covered most of the length of the creek, but it has not characterized the depth or width of the contaminated sediments. These spatial issues will be important in determining a requirement for sediment remediation.

The proposed sampling and testing program design includes stratification and tiering. Stratification places a greater density of sampling locations in areas for which little or no historical data are available. For example, additional soil samples are proposed in areas of the site where gravel mining was historically conducted but where few samples have been collected and analyzed in previous investigations. Tiering will be used to determine whether certain types of analyses will be necessary based on the results of initial sampling and testing. For example, if a surface sediment sample exceeds a chemical screening level, additional testing may be conducted on that sample and samples at greater depth for that location. An adequate volume of sample will be archived for each sample depth to allow analysis of all analytes for a given medium. The tiered sampling and testing approach will reduce the cost of conducting unnecessary sample analyses and may avoid the time and expense for remobilization to collect additional samples at a later date.

One prehistoric archaeological site (a shell midden) has been identified in the Little Squalicum Creek ravine and it is possible that additional sites could also be present. The presence of a potentially significant archaeological site requires that cultural resources be addressed before starting any intrusive sampling activities. These resources will be addressed using a staged approach. The cultural resource management activities planned for the Park RI/FS may have as many as three stages: 1) inventory of impact areas, 2) evaluation of the identified resources, and 3) development and implementation of a management plan.

The QAPP provides detailed direction to the analytical laboratories on analytical methods, data quality objectives, sample custody, quality assurance/quality control procedures, data deliverables, data management and reporting. The QAPP is provided to office personnel and each analytical laboratory.

The HASP describes the procedures and equipment that will be used to protect the health and safety of project staff and the public during sampling. The HASP identifies chemical and physical hazards, types of work zones, protective equipment and procedures, responsible individuals, and an emergency plan.